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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,367	04/12/2001	Shimen K. Claxton	12-1147	3126

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EXAMINER

MEHRA, INDER P

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/833,367

Applicant(s)

CLAXTON ET AL.

Examiner

Inder P Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 4-10 and 14-23 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 11-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to application dated: 4/12/01

Specifications

2. The disclosure is objected to because of the following informalities:

Refer to page 3 lines 1-2. It is disclosed that the first and second transmit data may be unencoded data bits. In previous sentence, it is disclosed that the transmitter includes a first data that produces first transmit data and a second data encoder that produces second transmit data. These two sentences contradict each other.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as explained below, containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession.

- Claim 8 recites "a frequency source coupled to the multiplexer control circuit through a frequency control input and to the transmit frequency upconverter". This is not supported by specifications and drawings.

- Claim 9 recites "a frequency selection signal on the frequency control input", in lines 2-3.

Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation "the power amplifier" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 19 recites the limitation "the multiplexer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 6-9, 10 and 17-19, are rejected under 35 U.S.C. 102(b) as being by anticipated by **Arnold et al** (US Patent No. 5,475,677), hereinafter, Arnold.

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For claims 1, 10 and 18, Arnold discloses a time multiplexed multiple carrier transmitter, refer to col. 2 lines 12-24 and col. 5 lines 50-55; comprising:

- a first data encoder (605 and 607 in fig. 6) for producing first transmit data, refer to col. 13 lines 15-22;
- a second data encoder for producing second transmit data, 605 and 607 in fig. 6, and “multiplexed radio links” and “a number of portables (number of encoders-one in each portable) to simultaneously access a single port on a multiplexed basis”, refer to col. 2 lines 12-18;
- a digital multiplexer coupled to the first and the second data encoder (607 in fig. 6), and “a number of portables (number of encoders-one in each portable) to simultaneously access a single port on a multiplexed basis”, refer to col. 2 lines 12-18;
- a power amplifier 611 in fig. 6, refer to col. 13 lines 35-40;
- a transmit frequency upconverter coupled between the transmit signal output and the power amplifier, refer to “the front end circuitry 300 upconverts the IF frequency—RF carrier ---the amplified--- power amplifier 611”, refer to col. 13 lines 34-40;
- a multiplexer control circuit (microcontroller 602 in fig. 6) coupled to the digital multiplexer (607 in fig. 6) through a multiplexer control input (uc), ---select between the first and second data encoders (selecting a channel, refer to col. 9 lines 5-10, “a number of portables (number of encoders-one in each portable) to simultaneously access a single port on a multiplexed basis”, refer to col. 2 lines 12-18);

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- and according to a predetermined transmit schedule (appropriate time), refer to col. 12 lines 58-60 and col. 13 lines 25-50.

For claims 6-7, 17 and 19, Arnold discloses the subject matter including the following limitations:

- a third/ fourth data encoder, *as recited by claims 6 and 7*, for producing third transmit data (digital channels and number of portables, col. 2 lines 10-15), the third data encoder coupled to the digital multiplexer, and the multiplexer control signal selecting one of the first, second and third data encoders according to the predetermined transmit schedule, (refer to *"multiplexed radio links---allow a number of portables (transmit data---access a single port on multiplexed basis)"*, col. 2 lines 10-15; (controlling scheduling, refer to col. 12 lines 55-60 and col. 13 lines 25-50.

For claims 8-9, Arnold discloses the subject matter including the following limitations:

- **as recited by claim 8**, a frequency source (speech encoder 605 in fig. 6) coupled to the multiplexer controlled circuit through a frequency control input (uc in fig. 6) and to transmit frequency upconverter (302 in fig. 6).
- **As recited by claim 9**, the multiplexer control circuit (uc in fig. 6) produces a frequency selection signal on the frequency control input(uc), coordinated with the multiplexer control signal to select a predetermined transmit frequency for each of the

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first and second transmit data,(modulated data) refer to “encoder multiplexer607” in fig. 6, refer to col. 13 line 19, and refer to col. 12 lines 52-col. 13 line 51.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Arnold et al** (US Patent No. 5,475,677), hereinafter, Arnold as applied to claims 1 and 10 above, and further in view of **Judd et al** (US Patent No. 6,701,137), hereinafter, Judd.

For claims 4 and 14, Arnold discloses all the limitations of subject matter of these claims except the following limitations, which are disclosed by Judd, as follows:

- “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, **as recited by claim 4**, refer to fig. 28, 26 and 30 in fig. 1.
- “digital to analog converting the transmit signal”, **as recited by claim 14**, refer to 28 in fig. 1.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

11. Claims 5, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Arnold et al** (US Patent No. 5,475,677), hereinafter, Arnold as applied to claims 1 and 10 above, and further in view of **Martone et al** (US Patent No. 6,603,806), hereinafter, Martone.

For claims 5, 15, and 16, Arnold discloses all the limitations of subject matter of these claims with the exception of the following limitations, which are disclosed by Martone, as follows:

- encoders includes a first intermediate frequency upconverter, refer to fig. 7, refer to col. 6 lines 42-60.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

Allowable Subject Matter

12. Claims 2-3, and 11-13, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tiedemann et al (US Patent No. 6,335,922) discloses a communication system capable of variable rate transmission, scheduling of high speed data transmission improves utilization of the forward link and decreases the transmission delay in data communication.
- Schwaller et al (US Patent No. 6,230,026) discloses a wireless telephone architecture employing a broadband transceiver that is coupled to a digital channelizer and digital combiner.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P Mehra whose telephone number is 703-305-1985. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder Pal Mehra

Inder P Mehra

Examiner

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DANG TON
PRIMARY EXAMINER